PAT-NO: JP405093950A

DOCUMENT-IDENTIFIER: JP 05093950 A

TITLE: FILM UNIT WITH LENS AND METHOD FOR CONFIRMING NUMBER OF RECYCLED TIMES AND RECYCLED TIME

PUBN-DATE: April 16, 1993

INVENTOR-INFORMATION:
NAME
YAMASHINA, YASUHIRO
OGURA, TOSHIYUKI

INT-CL (IPC): G03B017/04

US-CL-CURRENT: 396/155, 396/287 , 396/FOR.713

ABSTRACT:

PURPOSE: To keep stable quality though recycled parts are used.

CONSTITUTION: An exposing unit, a main body part and a stroboscopic unit which can be recycled are incorporated inside a film unit with a lens. A display part 40 for displaying the production time of the stroboscopic unit, the number of recycled **times and the recycled** time thereof is provided on a pattern made of copper foil, which is printed on the printed circuit board 22a of the stroboscopic unit, on the board 22a.

---------- KWIC ---------

Abstract Text - FPAR (2):
CONSTITUTION: An exposing unit, a main body part and a stroboscopic unit which can be recycled are incorporated inside a film unit with a lens. A display part 40 for displaying the production time of the stroboscopic unit,

the number of recycled **times and the recycled** time thereof is provided on a
pattern made of copper foil, which is printed on the printed circuit board 22a
of the stroboscopic unit, on the board 22a.

(19)日本国特許庁（ＪＰ）　(12)**公開特許公報（Ａ）**　(11)特許出願公開番号

特開平5－93950

(43)公開日　平成５年(1993)４月16日

(51)Int.Cl.[5]	識別記号	庁内整理番号	ＦＩ	技術表示箇所
Ｇ０３Ｂ　17/04		7348－2K		

審査請求　未請求　請求項の数２(全　６　頁)

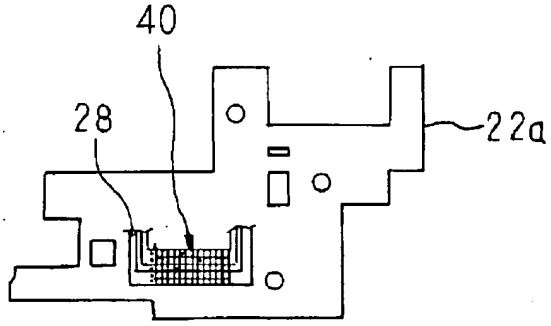
(21)出願番号　特願平3－280459

(22)出願日　平成３年(1991)９月30日

(71)出願人　000005201
富士写真フイルム株式会社
神奈川県南足柄市中沼210番地
(72)発明者　山科　泰寛
東京都港区西麻布２－26－30　富士写真フイルム株式会社内
(72)発明者　小倉　敏之
東京都港区西麻布２－26－30　富士写真フイルム株式会社内
(74)代理人　弁理士　小林　和憲

(54)【発明の名称】　レンズ付きフイルムユニット及びリサイクル回数並びにリサイクル時期の確認方法

(57)【要約】
【目的】　リサイクル部品を用いながら安定した品質を維持する。
【構成】　レンズ付きフイルムユニットの内部には、リサイクル可能な露光ユニット、本体部及びストロボユニットとが内蔵されている。ストロボユニットのプリント基板２２ａには、それの上に印刷された銅箔のパターンに、ストロボユニットの製造時期とリサイクル回数及びその時期とを表示するための表示部４０を設けている。



1

【特許請求の範囲】

【請求項１】　撮影用の開口を有し、この開口を挟む一方側に未露光のフイルムが収納されるフイルム供給室と、前記開口の他方側に撮影済フイルムを巻き込んでゆくフイルム巻取室とを樹脂で一体に形成した本体基部に、撮影レンズ、フイルム巻上げ機構、シャッタ機構及びストロボ基板等の部品を取り付け、これらの少なくとも一つをリサイクル部品としたレンズ付きフイルムユニットにおいて、前記リサイクル部品にそれの製造時期とリサイクル回数及びその時期とを表示するための表示部を設けたことを特徴とするレンズ付きフイルムユニット。

【請求項２】　予めフイルムが収納されるフイルム供給室並びに撮影済フイルムを巻き込んでゆくフイルム巻取室とが一体に形成された本体基部と、この本体基部に組み込まれる撮影レンズ、フイルム巻上げ機構、シャッタ機構等の複数の部品とから構成されたレンズ付きフイルムユニットの少なくとも一部品をリサイクル部品として再利用する際に、リサイクル部品の一定位置に決めた基準位置に対してリサイクル時期ごとに異なった位置にマーク等の記録を施しておき、次回のリサイクル時に前記マーク等の記録個数及び記録位置からリサイクル部品のリサイクル回数とリサイクル時期を確認できるようにしたことを特徴とするレンズ付きフイルムユニットのリサイクル部品のリサイクル回数並びにリサイクル時期の確認方法。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】本発明は、レンズ付きフイルムユニットに関し、更に詳しくは、リサイクル可能なレンズ付きフイルムユニットに関するものである。

【０００２】

【従来の技術】図３、図４及び図５に示すように、撮影レンズ５、フイルム巻上げ機構１８及びシャッタ機構１９が組み込まれた本体部２０に、予め国際標準規格ＩＳＯの１００７－１９７９年で規定されたパトローネ付きの１３５フイルムを後カバー２１で光密に収納させ、本体部の前面にストロボユニット２２を組み込みそれらの前面から前カバー２３が被着されたユニット本体３を外ケース４で覆ったストロボ付きレンズ付きフイルムユニット２（以下、「フイルムユニット」と称す）が知られている。

【０００３】このようなフイルムユニット２の本体部２０には、撮影開口２４の左右にフイルム供給室２５とフイルム巻取室２６とが設けられている。フイルム供給室２５には、未露光のフイルムがロール状に巻かれた状態で収納されており、これを購入したユーザーは、撮影毎に露光済のフイルムをフイルム巻取室２６に設けたパトローネ本体内のスプールに巻き取ってゆき、全部の露光が済むと、フイルムユニット２ごと現像取扱店に現像依

2

頼する。現像所では、露光済のフイルムを収納したパトローネを取出し、現行の現像処理システムを使用して現像及び焼付等の処理を行い、ユーザーにはプリント写真とフイルムネガとが返却され、現像上の都合でフイルムユニット２は返却されないようになっている。従来、この用済のフイルムユニット２は壊され産業廃棄物として処分されていたが、最近、環境保全や産業廃棄物の削減等の問題によってフイルムユニット２を回収して再使用するリユース等のリサイクルの検討が行われている。

【０００４】このリサイクルの検討は、できるだけ産業廃棄物として処分されることのないように、例えば、プラスチック成型部品等は樹脂ペレット等の原料に戻して再使用する再生使用等の検討がなされている。このようなリサイクルを考慮した場合では、ユニット本体３が前カバー２３及び後カバー２１で保護されているので、汚れやキズ等の損傷が殆どなく、また、撮影レンズ５、フイルム巻上げ機構１８、シャッタ機構１９及びストロボユニット２２が破損又は損傷させることなく簡単に取り外せるため、そのまま再使用するリサイクルが出来れば価値が高いことがわかった。

【０００５】ところで、前述したようなリサイクルを考慮した場合には、撮影レンズ５、フイルム巻上げ機構１８、シャッタ機構１９及びストロボユニット２２等の機能部品は、必ず機能検査を行う必要がある。例えば、ストロボユニット２２は、これのプリント基板２２ａの上に印刷された銅箔パターン等の導通検査を必要とするとともに、リサイクル使用頻度の限度を知るためにリサイクル回数を把握する必要がある。従来ストロボユニット２２のリサイクル回数は、図６及び図７に示すようにプリント基板２２ａの前面に印刷された銅泊パターン２８の上に予め間仕切りを印字しておき、これらの枡目内にリサイクルごとに印字される黒丸印の数で確認できるようになっていた。なお、黒丸印の印字は、枡目ごとに右から順番に行われる。このような印字は、枡目内の黒丸印を画像処理等で認識し、さらに後の空白の枡目を認識した後、ここへインクジェットプリンタ等で印字する高精度の装置にて行っていた。このようなリサイクル確認作業により前述したようなリユース等のリサイクルを考慮した場合にも安全に、また、製品の品質を失うことなく再出荷できる。

【０００６】

【発明が解決しようとする課題】しかしながら、前述した撮影レンズ５、フイルム巻上げ機構１８、シャッタ機構１９及びストロボユニット２２等には必ず使用耐用年数が定められており、例えば、ストロボユニット２２ではリサイクル回数だけの確認しか行えないため、リユースにおける安全性に対して不十分である。

【０００７】本発明は、上述のような背景に鑑みてなされたもので、リサイクル部品を用いながら、安定した品質を維持できるようにしたレンズ付きフイルムユニット

を提供することを目的とする。

【0008】

【課題を解決するための手段】上記目的を達成するために本発明では、撮影用の開口を有し、この開口を挟む一方側に未露光のフイルムが収納されるフイルム供給室と、前記開口の他方側に撮影済フイルムを巻き込んでゆくフイルム巻取室とを樹脂で一体に形成した本体基部に、撮影レンズ、フイルム巻上げ機構、シャッタ機構及びストロボ基板等の部品を取り付け、これらの少なくとも一つをリサイクル部品としたレンズ付きフイルムユニットにおいて、前記リサイクル部品にそれの製造時期とリサイクル回数及びその時期とを表示するための表示部を設けたものである。

【0009】また、レンズ付きフイルムユニットを構成している部品のうち、再利用されるリサイクル部品に予め基準位置を設けておき、このリサイクル部品を再利用するときには、そのリサイクル時期に対応して予め決めた間隔だけ前記基準位置から離れた位置にマーク等の記録を行うようにした。これにより、マーク等の記録個数からリサイクル回数が分かり、またその記録位置からリサイクルされた時期を簡単に確認することができるようになる。

【0010】

【実施例】本発明のレンズ付きフイルムユニットの構造は、従来技術で説明したと同じであり、同じ部品に同符号を付けている。図2において、フイルムユニット2は、撮影機構を備えたユニット本体3と、これを収納する外ケース4とから構成されており、この外ケース4に入れたままで写真撮影が行われる。外ケース4は、フイルムユニット2の外観を奇麗にするためのものであり、外面に印刷を施された紙箱等が用いられる。この外ケース4には、撮影レンズ5、対物側ファインダー窓6a、接眼側ファインダー窓6b、レリーズボタン7、撮影枚数表示板8、巻き上げノブ9、及び発光部10を露出させるための穴が設けられ、またストロボ撮影は前カバー21のストロボ用スイッチ11を押しながらシャッタレリーズを行う。

【0011】ユニット本体3は、本体部20、前カバー23、及び後カバー21とから構成されている。本体部20には、フイルム巻き上げ機構18及びシャッタ機構19を組み付けた露光ユニット30とストロボユニット22とが組み込まれる。なお、前述した各部品の機能は、特公平2－32615号公報に記載された部品と同じ機能であり、ここでは詳しい説明を省略している。

【0012】前記ストロボユニット22には、発光部10、周知のX接点31、電池が挟装される電極板32，33が各々固定されており、これのプリント基板22aの前面には各接点を接続する銅箔のパターン28が印刷されている。図1及び図2に示すようにパターン28が印刷されたストロボ基板22aの前面要部には、製造時期とリサイクル回数及びその時期を表示した表示部40が予め印字されている。この表示部40は、基準位置表示部41に対して予め定められた位置に印字されており、5行12列となった枡目を一定間隔ごとに整列させたものである。枡目の行の部分は上から順に年号を示し、その列の部分が左から順に月を示している。そして、表示部40の横には、年号（西暦の末尾二桁）に応じた数字「91」「92」「93」「94」「95」が記入されている。なお、リサイクルの時期を季節で表す場合には、1年あたり4個の枡目を設けておけばよい。

【0013】製造時期の印とリサイクル時期とのマークは種別されており、例えば、白丸印を製造時期、黒丸印をリサイクル時期と予め定めておけば、確認が容易である。なお、丸印の代わりに点や×等のマークでもかまわない。例えば図2に示した表示部40は、プリント基板は、1991年の5月に製造され、1992年の8月と1993年の4月にリサイクルされており、リサイクル回数は2回と確認できる。なお、表示部40を5行としているのは、1回目のリサイクル時期から2回目のリサイクル時期までを1年とし、プリント基板の耐用年数を5年とした場合においてであり、プリント基板の耐用年数を5年、1回面のリサイクル時期から2回目のリサイクル時期までを2年～3年と考えると、表示部40を3行とし、表示部40の横に印字する年号を例えば「91」「93」「95」とすればよい。さらに、製造時期の年号がずれてゆくことにより、製造時期以前の年号を読みかえれば、表示部40は5行でよい。

【0014】次に、上記に説明したフイルムユニット2を現像所から回収し、これを分解する工程について説明する。第1工程では、回収されたフイルムユニット2から外ケース4を外す。この外ケース4は、例えば、紙箱の場合には古紙として再資源化される。第2工程では、ユニット本体3から前カバー23を外す。なお、この際に巻上げノブ9を取り外しておく。

【0015】第3工程では、撮影レンズ5とストロボユニット22とを取り外す。撮影レンズ5は、露光ユニット30のシャッタカバー5aに着脱自在となっているから容易に取り外せ、また、ストロボユニット22も本体部20から容易に取り外せる。この時の取り外しは、本体部20の突起22b，22cとストロボユニット22の位置決め穴22b，22cとの係合を解除すればよい。このストロボユニット22は、機能検査後に再組立工程に送られる。送られたストロボユニット22は、それの表示部40の所定の枡目にリサイクル時期を示す黒丸印が印字される。この印字は、インクジェットプリンタやゴム印等を用いて行われる。

【0016】なお、従来技術で説明した黒丸印の印字は、リサイクルごとに位置が異なるため、画像認識装置やインクジェットプリンタの移動制御装置等の高価な装置が必要なる欠点があったのに対し、本発明の表示部4

5

0に印字するときは、基準位置表示部４１に対して予め印字する位置が把握できるため、安価なプリンタ装置を用いることができる。なお、基準位置表示部４１の代わりに、本体部２０用の位置決め穴２２ｂ，２２ｃを利用してもよい。

【００１７】第４工程では、本体部２０から露光ユニット３０を取り外す。この露光ユニット３０は、損傷されることなく取り出され、機能検査した後に再組立工程に送られるとともに、残りの後カバー２１が係合している本体部２０は、現像所で露光済フイルムを収納したパトローネを取り出しているので、異種材料の混在がなくそのままの状態で樹脂再生工程に送られる。なお、先に取り外された前カバー２３、撮影レンズ５、及び巻上げノブ９とも樹脂再生工程に送られる。

【００１８】次に、前述したフイルムユニット２の再組立工程について説明する。先ず、先の分解工程から機能検査された後の露光ユニット３０を本体部２０に取り付ける。露光ユニット３０が取り付けられた本体部２０には、先の分解工程から機能検査に送られ、チェック済のストロボユニット２２が取り付けられ、これらの前面に前カバー２３を取り付ける。その後、暗室内でパトローネ付きフイルムを装填し後カバー２１で密閉する。最後に外ケース４で覆うことにより図２に示すようなフイルムユニット２が完成する。

【００１９】なお、本実施例では、ストロボユニット２２に表示部４０を設けた例としたが、本発明ではこれに限らず、例えば、露光ユニット３０や本体部２０等の基本的部品に設けてもよいし、その他のカバー部品にも適用できる。また、本発明を実施するにあたっては、必ずしも年号を表す数字や枠線からなる表示部４０を要しない。すなわち、リサイクルされる部品について予めその製造時に一定の基準位置に基準位置表示を設けておき、リサイクルの時期に応じて基準位置表示から所定間隔だけ離れた位置にマーク等の印字を施すようにしておけばよい。これらのマークの読み取り及びリサイクル回数，時期の確認は、目視の他、光電的，機械的な自動読み取りで対応することも可能である。なお、基準位置表示としては、例えばリサイクル部品を組み込むときの位置決め基準となる穴や突起等を代用することも可能である。

6

【００２０】

【発明の効果】以上のように、本発明のフイルムユニットによれば、リサイクル部品にそれの製造時期とリサイクル回数及びその時期とを表示するための表示部を設け、この表示部内の所定位置にリサイクル時期を示すマーク等を記録するようにしてあるから、リサイクル部品を観察すれば直ちにリサイクルの回数，時期を知ることができ、リサイクル部品を安定した品質で再利用できる。また、リサイクルの回数並びに時期を確認するには、リサイクル部品の一定位置に基準位置表示を設けておき、リサイクルの度にこの基準位置表示からリサイクル時期に対応した間隔をおいてマーク等の記録を行うようにしておけば、必ずしもリサイクル部品に枡目や数字等の表示部を設けなくても済み、本発明の実施にあたって特別な加工を要せずコスト負担を生じさせることがない。

【図面の簡単な説明】

【図１】本発明に係るレンズ付きフイルムユニットに組み込まれるプリント基板を示す平面図である。

【図２】プリント基板に印字した表示部を示す要部拡大平面図である。

【図３】レンズ付きフイルムユニットの外観を示す斜視図である。

【図４】前カバーとストロボユニットとを示す分解斜視図である。

【図５】本体部と露光ユニットとを示す分解斜視図である。

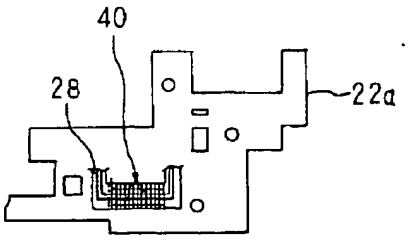
【図６】従来技術のレンズ付きフイルムユニットに組み込まれるプリント基板を示す平面図である。

【図７】従来技術のプリント基板に印字した表示部を示す要部拡大平面図である。

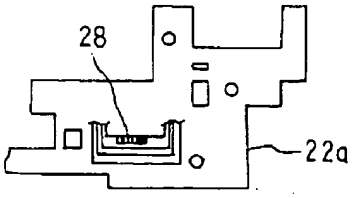
【符号の説明】

２　レンズ付きフイルムユニット
５　撮影レンズ
２０　本体部
２２ａ　ストロボ基板
２８　銅箔パターン
４０　表示部

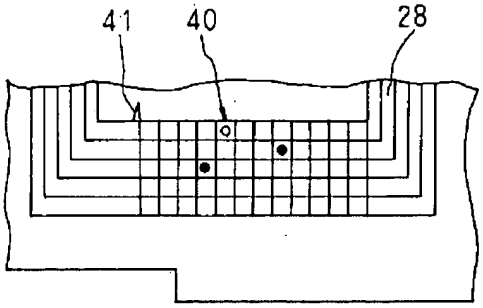
【図１】



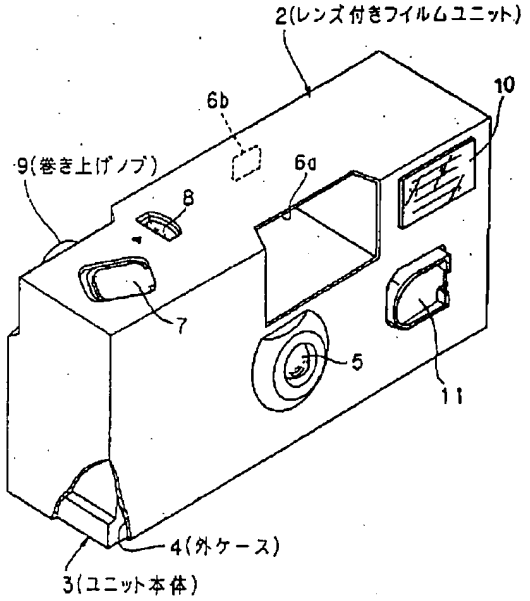
【図６】



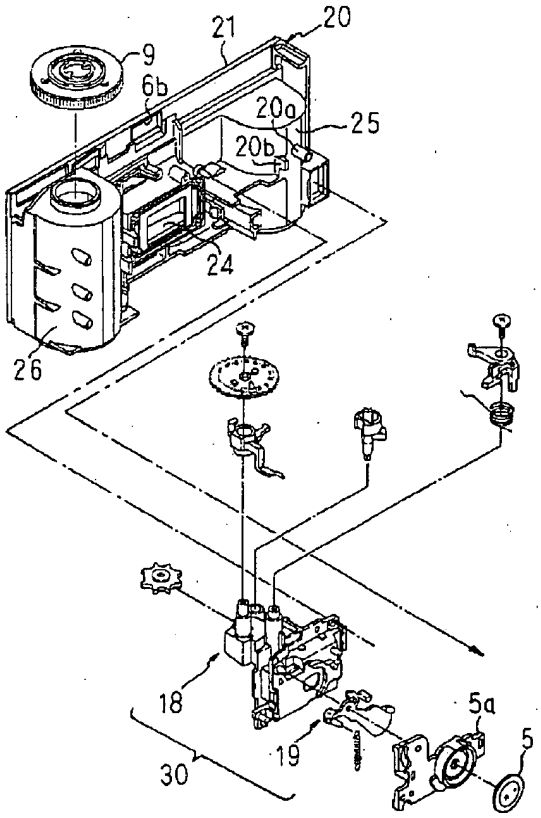
【図2】


41
40
28

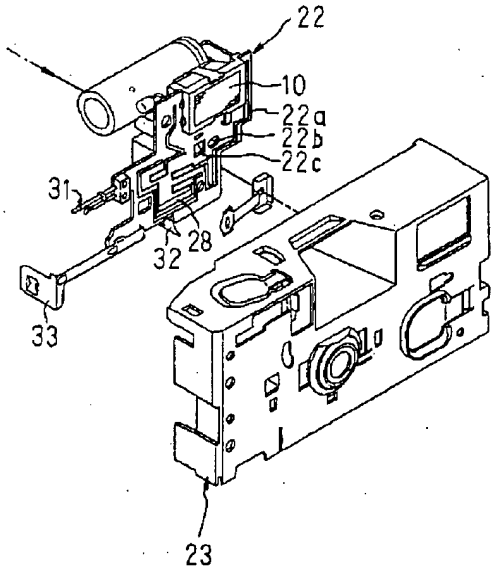
【図3】


2(レンズ付きフイルムユニット)
10
6b
9(巻き上げノブ)
6a
8
7
5
11
4(外ケース)
3(ユニット本体)

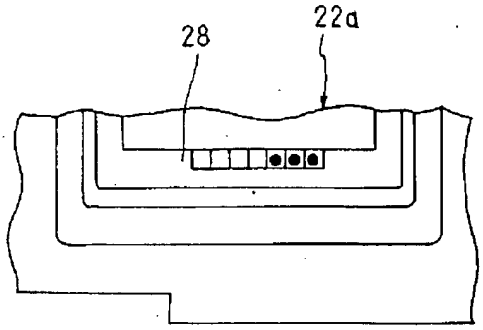
【図4】


21
20
9
6b
20a
25
20b
24
26
18
5a
19
5
30

【図5】


22
10
22a
22b
22c
31
28
32
33
23

【図7】



PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-093950

(43)Date of publication of application : 16.04.1993

(51)Int.Cl. G03B 17/04

(21)Application number : 03-280459

(22)Date of filing : 30.09.1991

(71)Applicant : FUJI PHOTO FILM CO LTD

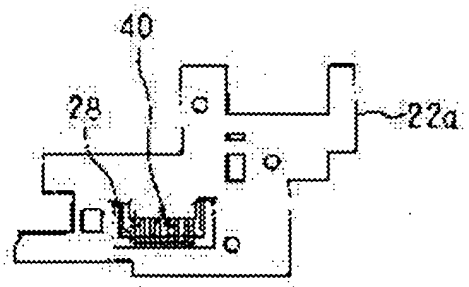
(72)Inventor : YAMASHINA YASUHIRO
OGURA TOSHIYUKI

(54) FILM UNIT WITH LENS AND METHOD FOR CONFIRMING NUMBER OF RECYCLED TIMES AND RECYCLED TIME

(57)Abstract:

PURPOSE: To keep stable quality though recycled parts are used.

CONSTITUTION: An exposing unit, a main body part and a stroboscopic unit which can be recycled are incorporated inside a film unit with a lens. A display part 40 for displaying the production time of the stroboscopic unit, the number of recycled times and the recycled time thereof is provided on a pattern made of copper foil, which is printed on the printed circuit board 22a of the stroboscopic unit, on the board 22a.



LEGAL STATUS

[Date of request for examination] 12.09.1995

[Date of sending the examiner's decision of rejection] 17.03.1998

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]	2967841
[Date of registration]	20.08.1999
[Number of appeal against examiner's decision of rejection]	10-006004
[Date of requesting appeal against examiner's decision of rejection]	16.04.1998
[Date of extinction of right]	

JAPANESE [JP,05-093950,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE INVENTION TECHNICAL PROBLEM MEANS EXAMPLE DESCRIPTION OF DRAWINGS DRAWINGS

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The film supply room where an unexposed film is contained at the one side whose opening of this has opening for photography and is pinched, To the base of a body formed in one by resin, the film winding room which involves the film taken a photograph in the other side of said opening, and dies In the film unit with a lens which attached components, such as a taking lens, a film winding device, a shutter style, and a stroboscope substrate, and used these at least one as recycle components The film unit with a lens characterized by preparing the display for displaying the manufacture stage of that, the count of recycle, and its stage on said recycle component.
[Claim 2] The base of a body where the film winding room which involves the film taken a photograph in the film supply room list by which a film is contained beforehand, and dies was formed in one, In case [of the film unit with a lens which consisted of two or more components, such as a taking lens built into this base of a body, a film winding device, and a shutter style,] elegance is reused as recycle components in part at least A mark etc. is recorded on a location which is different for every recycle stage to the criteria location decided to be the fixed location of recycle components. It is the symptom of a recycle stage to the count list of recycle of the recycle components of the film unit with a lens characterized by enabling it to check the count of recycle and recycle stage of recycle components from the record number and record locations, such as said mark, at the time of next recycle.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to a recyclable film unit with a lens in more detail about a film unit with a lens.
[0002]
[Description of the Prior Art] As shown in drawing 3 , drawing 4 , and drawing 5 , in the body section 20 in which the taking lens 5, the film winding device 18, and the shutter style 19 were included It is made to contain densely. 135 films with a cartridge specified beforehand in 1007 to 1979 of the International Standard ISO -- the back covering 21 -- light -- The film unit 2 (a "film unit" is called hereafter) with a lens with a stroboscope which covered the unit body 3 on which the stroboscope unit 22 was included in the front face of the body section, and the frame front cover 23 was put from those front faces in the outside case 4 is known.
[0003] The film supply room 25 and the film winding room 26 are established in right and left of the photography opening 24 at such the body section 20 of the film unit 2. The user who is contained by the film supply room 25 where an unexposed film is rolled in the shape of a roll, and purchased this will do a development request the whole film unit 2 in a development agency, if it rolls round to the spool within the body of a cartridge which prepared the film [finishing / exposure] in the film winding room 26 for every photography and all exposure ends. In a processing laboratory, in the cartridge which contained the film [finishing / exposure], development, printing, etc. are processed using drawing and the present development system, a print photograph and a negative film are returned to a user, and the film unit 2 is returned for convenience' sake on development. Although the film unit [finishing / this business] 2 was destroyed and it disposed as industrial waste conventionally, examination of recycle, such as reuse which collects and carries out the reuse of the film unit 2 according to problems, such as environmental preservation and reduction of industrial waste, is performed recently.
[0004] Examination of the playback use which returns plastic-goods-molding components etc. to raw materials, such as a resin pellet, and carries out a reuse is made so that examination of this recycle may not be disposed of as much as possible as industrial waste. In the case where such recycle is taken into consideration, since the unit body 3 was protected with a frame front cover 23 and the back covering 21 and it removed easily, without there being almost no damage on dirt, a crack, etc., and a taking lens 5, the film winding device 18, the shutter style 19, and the stroboscope unit 22 making it damaged or damaged, when recycle which carries out a reuse as it is was completed, it turned out that it is worthy.
[0005] By the way, when recycle which was mentioned above is taken into consideration, the functional part of a taking lens 5, the film winding device 18, the shutter style 19, and stroboscope unit 22 grade surely needs to conduct a functional test. For example, in order to know the limit of recycle use frequency, the stroboscope unit 22 needs to grasp the count of recycle, while needing flow inspection of the copper foil pattern printed on printed circuit board 22a of this. Conventionally, the count of recycle of the stroboscope unit 22 prints the partition beforehand on the copper foil pattern 28 printed by the front face of printed circuit board 22a, as shown in drawing 6 and drawing 7 , and it can check it now by the number of the black dot marks printed for every recycle in these measure inside. In addition, printing of the black dot mark is performed in an order from the right for every eye a measure. After such printing had recognized the black dot mark of measure inside by the image processing etc. and had recognized eye a measure of a next null further, the highly precise equipment printed with an ink jet printer etc. here was performing it. Also when recycle of reuse which was mentioned above according to such a recycle check activity is taken into consideration, it can re-ship safely, without losing

the quality of a product.
[0006]
[Problem(s) to be Solved by the Invention] However, since the use life is surely set to the taking lens 5 mentioned above, the film winding device 18, the shutter style 19, and the stroboscope unit 22 grade, for example, only the check of only the count of recycle can be performed in the stroboscope unit 22, it is inadequate to the safety in reuse.
[0007] This invention aims at offering the film unit with a lens which enabled it to maintain the stable quality, having been made in view of the above backgrounds and using recycle components.
[0008]
[Means for Solving the Problem] The film supply room where an unexposed film is contained at the one side whose opening of this has opening for photography in this invention in order to attain the above-mentioned purpose, and is pinched, To the base of a body formed in one by resin, the film winding room which involves the film taken a photograph in the other side of said opening, and dies In the film unit with a lens which attached components, such as a taking lens, a film winding device, a shutter style, and a stroboscope substrate, and used these at least one as recycle components The display for displaying the manufacture stage of that, the count of recycle, and its stage on said recycle component is prepared.
[0009] Moreover, the criteria location was beforehand established in the recycle components reused among the components which constitute the film unit with a lens, and when reusing this recycle component, only spacing beforehand decided corresponding to that recycle stage was made to record a mark etc. on the location distant from said criteria location. The stage which the record numbers, such as a mark, showed the count of recycle, and was recycled from the record location by this can be easily checked now.
[0010]
[Example] The structure of the film unit with a lens of this invention is the same in the conventional technique having explained, and has attached the same sign to the same components. In drawing 2 , the film unit 2 consists of a unit body 3 equipped with the motion picture camera style, and an outside case 4 which contains this, and photography is performed, putting into the outside [this] case 4. The outside case 4 is for cleaning the appearance of the film unit 2, and the carton with which it was printed outside is used. The hole for exposing a taking lens 5, object side finder aperture 6a, eyepiece side finder aperture 6b, the release carbon button 7, the photography number-of-sheets display board 8, the winding-up knob 9, and a light-emitting part 10 is prepared, and speed light photography carries out shutter release to the outside [this] case 4, pushing the switch 11 for stroboscopes of a frame front cover 21.
[0011] The unit body 3 consists of the body section 20, a frame front cover 23, and back covering 21. The exposure unit 30 and the stroboscope unit 22 which attached the film loop wheel machine style 18 and the shutter style 19 are included in the body section 20. In addition, the function of each part article mentioned above is the same function as the components indicated by JP,2-32615,B, and is omitting detailed explanation here.
[0012] A light-emitting part 10, the well-known X contact 31, and the electrode plates 32 and 33 with which a cell is fastened are being respectively fixed to said stroboscope unit 22, and the pattern 28 of copper foil which connects each contact is printed by the front face of printed circuit board 22a of this. The display 40 which displayed a manufacture stage, the count of recycle, and its stage on the front important section of stroboscope substrate 22a by which the pattern 28 was printed as shown in drawing 1 and drawing 2 is printed beforehand. This display 40 is printed in the location beforehand defined to the criteria position representation section 41, and aligns eye a measure became five-line 12 trains for every fixed spacing. The part of the line of eye a measure shows name of an era sequentially from a top, and the part of the train shows the moon sequentially from the left. And "the figure "91" and "92" according to name of an era (double figures tail of A.D.), 93", "94", and "95" are filled in beside the display 40. In addition, what is necessary is just to prepare four eyes per year a measure, in expressing the stage of recycle with a season.
[0013] A check is easy, if the mark of the mark of a manufacture stage and a recycle stage is classified, for example, the white round mark is determined as the manufacture stage and it determines the black dot mark as the recycle stage beforehand. In addition, the mark of a point, x, etc. may be used instead of a round mark. For example, the printed circuit board was manufactured in May, 1991, and the display 40 shown in drawing 2 is recycled in August, 1992 and April, 1993, and can check the count of recycle with 2 times. In addition, making the display 40 into five lines makes one year from the 1st recycle stage to the 2nd recycle stage. if the life of a printed circuit board is considered to be two years - three years for from a recycle stage [a page of] to the 2nd

recycle stage five years and once by coming out and being, when the life of a printed circuit board is made into five years What is necessary is to make a display 40 into three lines and just to set to "91", "93", and "95" the name of an era printed beside a display 40. Furthermore, if the name of an era before a manufacture stage is read when the name of an era of a manufacture stage shifts, a display 40 is good at five lines.

[0014] Next, the film units 2 explained above are collected from a processing laboratory, and the process which decomposes this is explained. At the 1st process, the outside case 4 is removed from the collected film unit 2. In the case of a carton, the outside [this] case 4 is recycled as used paper. At the 2nd process, a frame front cover 23 is removed from the unit body 3. In addition, the winding knob 9 is removed in this case.

[0015] At the 3rd process, a taking lens 5 and the stroboscope unit 22 are removed. Since a taking lens 5 can be freely detached and attached to shutter covering 5a of the exposure unit 30, it can be removed easily, and it can also remove the stroboscope unit 22 from the body section 20 easily. Removal at this time should just cancel engagement to the projections 22b and 22c of the body section 20, and the locating holes 22b and 22c of the stroboscope unit 22. This stroboscope unit 22 is sent to a reassembling process after a functional test. The black dot mark with which the sent stroboscope unit 22 shows a recycle stage to predetermined eye a measure of the display 40 of that is printed. This printing is performed using an ink jet printer, a rubber stamp, etc.

[0016] In addition, since printing of the black dot mark explained with the conventional technique can grasp the location beforehand printed to the criteria position representation section 41 when printing to the display 40 of this invention to there having been a fault which needs expensive equipments, such as image recognition equipment and a migration control unit of an ink jet printer, since locations differ for every recycle, it can use cheap printer equipment. In addition, the locating holes 22b and 22c for body section 20 may be used instead of the criteria position representation section 41.

[0017] At the 4th process, the exposure unit 30 is removed from the body section 20. While being sent to a reassembling process, without damaging this exposure unit 30 after taking out and carrying out a functional test, since the cartridge which contained the exposed film in the processing laboratory is taken out, the body section 20 with which the remaining back covering 21 is engaging does not have mixture of a dissimilar material, and is sent to a resin playback process in the condition as it is. In addition, the frame front cover 23 and taking lens 5 which were removed previously, and the winding knob 9 are sent to a resin playback process.

[0018] Next, the reassembling process of the film unit 2 mentioned above is explained. First, the exposure unit 30 after the functional test was carried out from the previous decomposition process is attached in the body section 20. It is sent to a functional test from a previous decomposition process, the stroboscope unit [finishing / a check] 22 is attached in the body section 20 in which the exposure unit 30 was attached, and a frame front cover 23 is attached in these front faces. Then, it loads with a film with a cartridge in a dark room, and seals with the back covering 21. The film unit 2 as shown in drawing 2 is completed by finally covering in the outside case 4.

[0019] In addition, although considered as the example which formed the display 40 in the stroboscope unit 22 in this example, in this invention, you may prepare in the fundamental components of not only this but the exposure unit 30, or body section 20 grade, and it can apply also to other covering components. Moreover, in carrying out this invention, the display 40 which consists of a figure showing name of an era or a closing line is not necessarily required. That is, to prepare criteria position representation in the fixed criteria location beforehand about the components recycled at the time of the manufacture, and what is necessary is just made to print a mark etc. in the location which separated only predetermined spacing from criteria position representation according to the stage of recycle. The check of reading and the count of recycle of these marks, and a stage can also be corresponded by automatic [be / photoelectricity-/ it / mechanical] reading besides viewing. In addition, it is also possible to substitute for the hole which serves as positioning criteria when incorporating recycle components, for example as criteria position representation, a projection, etc.

[0020]

[Effect of the Invention] As mentioned above, the display for displaying the manufacture stage of that, the count of recycle, and its stage on recycle components according to the film unit of this invention is prepared, since the mark which shows a recycle stage to the predetermined location in this display is recorded, if recycle components are observed, the count of recycle and a stage can be known immediately, and recycle components can be reused in the stable quality. Moreover, in order to check a stage in the count list of recycle, criteria position representation is prepared in the fixed location of recycle components, if spacing corresponding to a recycle stage is set at every recycle from this criteria position representation and it is made to record a mark etc. on it, even if it does not necessarily prepare displays, such as eye a measure and a figure, in recycle

components, it can be managed, and special processing is not required in operation of this invention, and a cost burden is not produced.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Industrial Application] This invention relates to a recyclable film unit with a lens in more detail about a film unit with a lens.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art] As shown in drawing 3 , drawing 4 , and drawing 5 , in the body section 20 in which the taking lens 5, the film winding device 18, and the shutter style 19 were included It is made to contain densely. 135 films with a cartridge specified beforehand in 1007 to 1979 of the International Standard ISO -- the back covering 21 -- light -- The film unit 2 (a "film unit" is called hereafter) with a lens with a stroboscope which covered the unit body 3 on which the stroboscope unit 22 was included in the front face of the body section, and the frame front cover 23 was put from those front faces in the outside case 4 is known.
[0003] The film supply room 25 and the film winding room 26 are established in right and left of the photography opening 24 at such the body section 20 of the film unit 2. The user who is contained by the film supply room 25 where an unexposed film is rolled in the shape of a roll, and purchased this will do a development request the whole film unit 2 in a development agency, if it rolls round to the spool within the body of a cartridge which prepared the film [finishing / exposure] in the film winding room 26 for every photography and all exposure ends. In a processing laboratory, in the cartridge which contained the film [finishing / exposure], development, printing, etc. are processed using drawing and the present development system, a print photograph and a negative film are returned to a user, and the film unit 2 is returned for convenience' sake on development. Although the film unit [finishing / this business] 2 was destroyed and it disposed as industrial waste conventionally, examination of recycle, such as reuse which collects and carries out the reuse of the film unit 2 according to problems, such as environmental preservation and reduction of industrial waste, is performed recently.
[0004] Examination of the playback use which returns plastic-goods-molding components etc. to raw materials, such as a resin pellet, and carries out a reuse is made so that examination of this recycle may not be disposed of as much as possible as industrial waste. In the case where such recycle is taken into consideration, since the unit body 3 was protected with a frame front cover 23 and the back covering 21 and it removed easily, without there being almost no damage on dirt, a crack, etc., and a taking lens 5, the film winding device 18, the shutter style 19, and the stroboscope unit 22 making it damaged or damaged, when recycle which carries out a reuse as it is was completed, it turned out that it is worthy.
[0005] By the way, when recycle which was mentioned above is taken into consideration, the functional part of a taking lens 5, the film winding device 18, the shutter style 19, and stroboscope unit 22 grade surely needs to conduct a functional test. For example, in order to know the limit of recycle use frequency, the stroboscope unit 22 needs to grasp the count of recycle, while needing flow inspection of the copper foil pattern printed on printed circuit board 22a of this. Conventionally, the count of recycle of the stroboscope unit 22 prints the partition beforehand on the copper foil pattern 28 printed by the front face of printed circuit board 22a, as shown in drawing 6 and drawing 7 , and it can check it now by the number of the black dot marks printed for every recycle in these measure inside. In addition, printing of the black dot mark is performed in an order from the right for every eye a measure. After such printing had recognized the black dot mark of measure inside by the image processing etc. and had recognized eye a measure of a next null further, the highly precise equipment printed with an ink jet printer etc. here was performing it. Also when recycle of reuse which was mentioned above according to such a recycle check activity is taken into consideration, it can re-ship safely, without losing the quality of a product.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, the display for displaying the manufacture stage of that, the count of recycle, and its stage on recycle components according to the film unit of this invention is prepared, since the mark which shows a recycle stage to the predetermined location in this display is recorded, if recycle components are observed, the count of recycle and a stage can be known immediately, and recycle components can be reused in the stable quality. Moreover, in order to check a stage in the count list of recycle, criteria position representation is prepared in the fixed location of recycle components, if spacing corresponding to a recycle stage is set at every recycle from this criteria position representation and it is made to record a mark etc. on it, even if it does not necessarily prepare displays, such as eye a measure and a figure, in recycle components, it can be managed, and special processing is not required in operation of this invention, and a cost burden is not produced.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, since the use life is surely set to the taking lens 5 mentioned above, the film winding device 18, the shutter style 19, and the stroboscope unit 22 grade, for example, only the check of only the count of recycle can be performed in the stroboscope unit 22, it is inadequate to the safety in reuse.
[0007] This invention aims at offering the film unit with a lens which enabled it to maintain the stable quality, having been made in view of the above backgrounds and using recycle components.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

MEANS

[Means for Solving the Problem] The film supply room where an unexposed film is contained at the one side whose opening of this has opening for photography in this invention in order to attain the above-mentioned purpose, and is pinched, To the base of a body formed in one by resin, the film winding room which involves the film taken a photograph in the other side of said opening, and dies In the film unit with a lens which attached components, such as a taking lens, a film winding device, a shutter style, and a stroboscope substrate, and used these at least one as recycle components The display for displaying the manufacture stage of that, the count of recycle, and its stage on said recycle component is prepared.
[0009] Moreover, the criteria location was beforehand established in the recycle components reused among the components which constitute the film unit with a lens, and when reusing this recycle component, only spacing beforehand decided corresponding to that recycle stage was made to record a mark etc. on the location distant from said criteria location. The stage which the record numbers, such as a mark, showed the count of recycle, and was recycled from the record location by this can be easily checked now.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

EXAMPLE

[Example] The structure of the film unit with a lens of this invention is the same in the conventional technique having explained, and has attached the same sign to the same components. In drawing 2 , the film unit 2 consists of a unit body 3 equipped with the motion picture camera style, and an outside case 4 which contains this, and photography is performed, putting into the outside [this] case 4. The outside case 4 is for cleaning the appearance of the film unit 2, and the carton with which it was printed outside is used. The hole for exposing a taking lens 5, object side finder aperture 6a, eyepiece side finder aperture 6b, the release carbon button 7, the photography number-of-sheets display board 8, the winding-up knob 9, and a light-emitting part 10 is prepared, and speed light photography carries out shutter release to the outside [this] case 4, pushing the switch 11 for stroboscopes of a frame front cover 21.

[0011] The unit body 3 consists of the body section 20, a frame front cover 23, and back covering 21. The exposure unit 30 and the stroboscope unit 22 which attached the film loop wheel machine style 18 and the shutter style 19 are included in the body section 20. In addition, the function of each part article mentioned above is the same function as the components indicated by JP,2-32615,B, and is omitting detailed explanation here.

[0012] A light-emitting part 10, the well-known X contact 31, and the electrode plates 32 and 33 with which a cell is fastened are being respectively fixed to said stroboscope unit 22, and the pattern 28 of copper foil which connects each contact is printed by the front face of printed circuit board 22a of this. The display 40 which displayed a manufacture stage, the count of recycle, and its stage on the front important section of stroboscope substrate 22a by which the pattern 28 was printed as shown in drawing 1 and drawing 2 is printed beforehand. This display 40 is printed in the location beforehand defined to the criteria position representation section 41, and aligns eye a measure became five-line 12 trains for every fixed spacing. The part of the line of eye a measure shows name of an era sequentially from a top, and the part of the train shows the moon sequentially from the left. And "the figure "91" and "92" according to name of an era (double figures tail of A.D.), 93", "94", and "95" are filled in beside the display 40. In addition, what is necessary is just to prepare four eyes per year a measure, in expressing the stage of recycle with a season.

[0013] A check is easy, if the mark of the mark of a manufacture stage and a recycle stage is classified, for example, the white round mark is determined as the manufacture stage and it determines the black dot mark as the recycle stage beforehand. In addition, the mark of a point, x, etc. may be used instead of a round mark. For example, the printed circuit board was manufactured in May, 1991, and the display 40 shown in drawing 2 is recycled in August, 1992 and April, 1993, and can check the count of recycle with 2 times. In addition, making the display 40 into five lines makes one year from the 1st recycle stage to the 2nd recycle stage. if the life of a printed circuit board is considered to be two years - three years for from a recycle stage [a page of] to the 2nd recycle stage five years and once by coming out and being, when the life of a printed circuit board is made into five years What is necessary is to make a display 40 into three lines and just to set to "91", "93", and "95" the name of an era printed beside a display 40. Furthermore, if the name of an era before a manufacture stage is read when the name of an era of a manufacture stage shifts, a display 40 is good at five lines.

[0014] Next, the film units 2 explained above are collected from a processing laboratory, and the process which decomposes this is explained. At the 1st process, the outside case 4 is removed from the collected film unit 2. In the case of a carton, the outside [this] case 4 is recycled as used paper. At the 2nd process, a frame front cover 23 is removed from the unit body 3. In addition, the winding knob 9 is removed in this case.

[0015] At the 3rd process, a taking lens 5 and the stroboscope unit 22 are removed. Since a taking lens 5 can be freely detached and attached to shutter covering 5a of the exposure unit 30, it can be removed easily, and it can

also remove the stroboscope unit 22 from the body section 20 easily. Removal at this time should just cancel engagement to the projections 22b and 22c of the body section 20, and the locating holes 22b and 22c of the stroboscope unit 22. This stroboscope unit 22 is sent to a reassembling process after a functional test. The black dot mark with which the sent stroboscope unit 22 shows a recycle stage to predetermined eye a measure of the display 40 of that is printed. This printing is performed using an ink jet printer, a rubber stamp, etc.

[0016] In addition, since printing of the black dot mark explained with the conventional technique can grasp the location beforehand printed to the criteria position representation section 41 when printing to the display 40 of this invention to there having been a fault which needs expensive equipments, such as image recognition equipment and a migration control unit of an ink jet printer, since locations differ for every recycle, it can use cheap printer equipment. In addition, the locating holes 22b and 22c for body section 20 may be used instead of the criteria position representation section 41.

[0017] At the 4th process, the exposure unit 30 is removed from the body section 20. While being sent to a reassembling process, without damaging this exposure unit 30 after taking out and carrying out a functional test, since the cartridge which contained the exposed film in the processing laboratory is taken out, the body section 20 with which the remaining back covering 21 is engaging does not have mixture of a dissimilar material, and is sent to a resin playback process in the condition as it is. In addition, the frame front cover 23 and taking lens 5 which were removed previously, and the winding knob 9 are sent to a resin playback process.

[0018] Next, the reassembling process of the film unit 2 mentioned above is explained. First, the exposure unit 30 after the functional test was carried out from the previous decomposition process is attached in the body section 20. It is sent to a functional test from a previous decomposition process, the stroboscope unit [finishing / a check] 22 is attached in the body section 20 in which the exposure unit 30 was attached, and a frame front cover 23 is attached in these front faces. Then, it loads with a film with a cartridge in a dark room, and seals with the back covering 21. The film unit 2 as shown in drawing 2 is completed by finally covering in the outside case 4.

[0019] In addition, although considered as the example which formed the display 40 in the stroboscope unit 22 in this example, in this invention, you may prepare in the fundamental components of not only this but the exposure unit 30, or body section 20 grade, and it can apply also to other covering components. Moreover, in carrying out this invention, the display 40 which consists of a figure showing name of an era or a closing line is not necessarily required. That is, to prepare criteria position representation in the fixed criteria location beforehand about the components recycled at the time of the manufacture, and what is necessary is just made to print a mark etc. in the location which separated only predetermined spacing from criteria position representation according to the stage of recycle. The check of reading and the count of recycle of these marks, and a stage can also be corresponded by automatic [be / photoelectricity-/ it / mechanical] reading besides viewing. In addition, it is also possible to substitute for the hole which serves as positioning criteria when incorporating recycle components, for example as criteria position representation, a projection, etc.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the top view showing the printed circuit board included in the film unit with a lens concerning this invention.
[Drawing 2] It is the important section expansion top view showing the display printed to the printed circuit board.
[Drawing 3] It is the perspective view showing the appearance of a film unit with a lens.
[Drawing 4] It is the decomposition perspective view showing a frame front cover and a stroboscope unit.
[Drawing 5] It is the decomposition perspective view showing the body section and an exposure unit.
[Drawing 6] It is the top view showing the printed circuit board included in the film unit with a lens of the conventional technique.
[Drawing 7] It is the important section expansion top view showing the display printed to the printed circuit board of the conventional technique.
[Description of Notations]
2 Film Unit with Lens
5 Taking Lens
20 Body Section
22a Stroboscope substrate
28 Copper Foil Pattern
40 Display

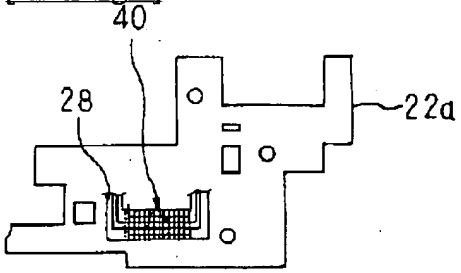
[Translation done.]

* NOTICES *

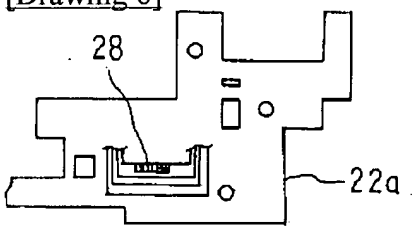
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

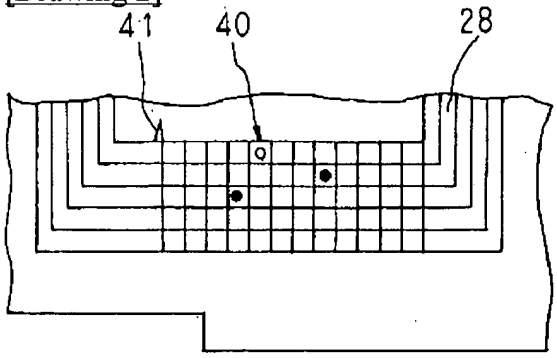
[Drawing 1]



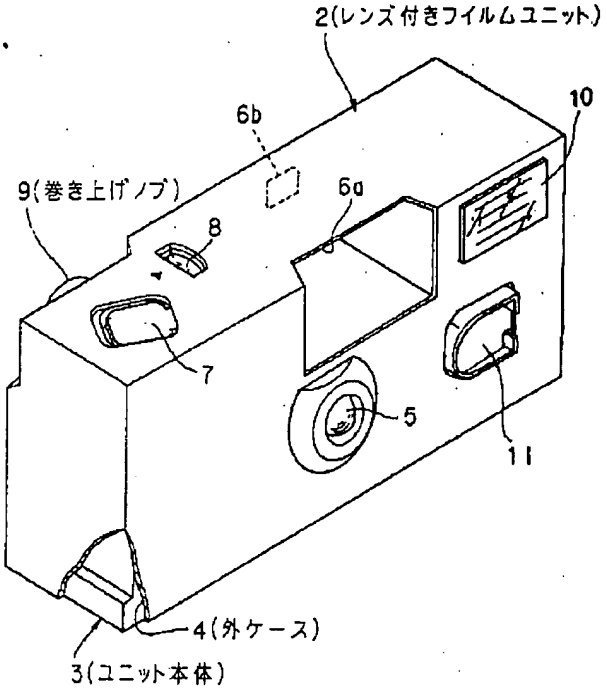
[Drawing 6]



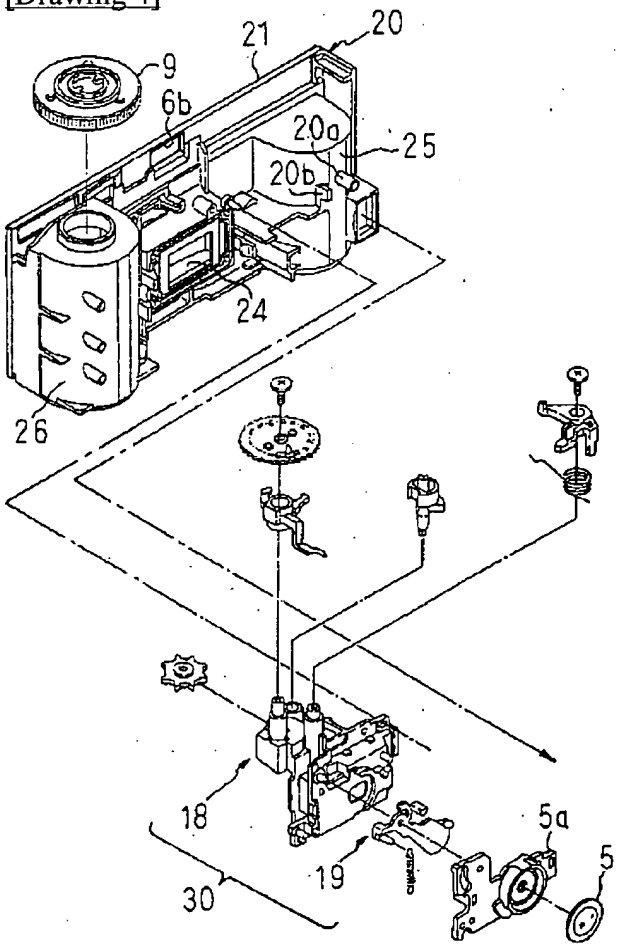
[Drawing 2]



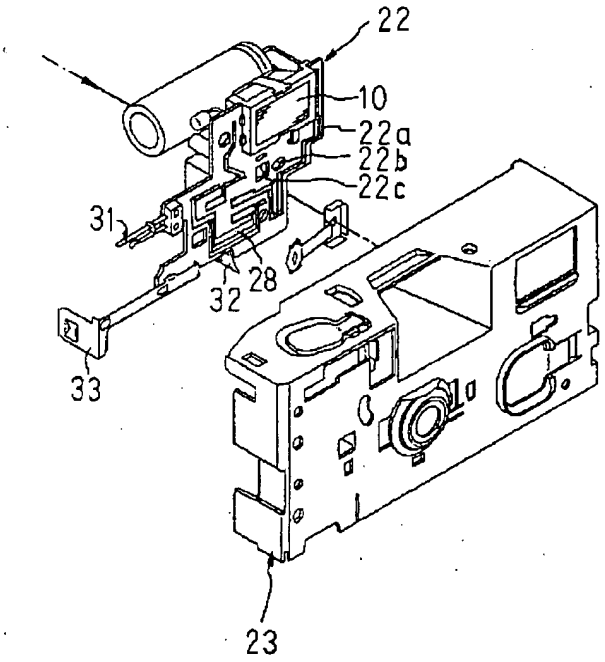
[Drawing 3]



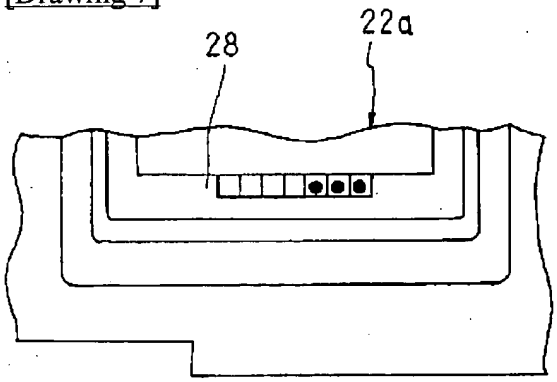
[Drawing 4]



[Drawing 5]



[Drawing 7]



[Translation done.]